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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/817,675	03/27/2001	Shunpei Yamazaki	12732-024001	9812
26171	7590	10/24/2003	EXAMINER	
FISH & RICHARDSON P.C. 1425 K STREET, N.W. 11TH FLOOR WASHINGTON, DC 20005-3500			THOMPSON, TIMOTHY J	
			ART UNIT	PAPER NUMBER
			2873	

DATE MAILED: 10/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/817,675

Applicant(s)

YAMAZAKI ET AL.

Examiner

Timothy J Thompson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 12.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 17, 19, 21, 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graff et al.(U.S. Pat No. 6,522,067) in view of Yudasaka(U.S. Patent No. 6,373,453).

Regarding claim 17, Graff et al. discloses forming an EL element(fig 1, 120) comprising a first electrode(fig 1, 200), a light emitting layer(fig 1, 210) over the first electrode, and a second electrode(fig 1, 220) over the light emitting layer; forming a film comprising an inorganic material(fig 1, 170) covering said EL element by using a CVD method(col 4, lines 55-65) or an evaporation method, and forming a film comprising an organic material(fig 1, 190) covering said film with an inorganic material. Graff et al. does not disclose when covering the film with an inorganic material using an ink jet method. However, Yudasaka discloses using an ink jet method for forming a film on an EL device. It would have been obvious to one skilled in the art at the time of the invention, to form the inorganic layer by using an ink jet method as disclosed by Yudasaka, in the EL device of Graff, since an ink jet method is commonly used for forming layers on an EL device.

Regarding claim 19, Graff et al. discloses A method of manufacturing a self-light emitting device(fig 1), wherein the light emitting layer, the second electrode, said film made

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from organic material, and the film made from the inorganic material are formed using the same film deposition apparatus(col 4, lines 27-65).

Regarding claim 21, Graff et al. discloses a method of manufacturing a self-light emitting device according to claim 17, wherein said E-L light emitting layer and said film made having an organic material are formed by an electric field application method or an ink jet method(col 4, lines 27-65, electron cyclotron resonance).

Regarding claim 23, Graff et al. discloses forming an EL element(fig 1, 120) having a first electrode(fig 1, 200), a light emitting layer(fig 1, 210) over the first electrode, and a second electrode(fig 1, 220) over the light emitting layer; forming a film comprising an inorganic material(fig 1, 170) covering said EL element by using a CVD method or an evaporation method(col 4, lines 55-65); and forming a film comprising an organic material9FIG 1, 190) covering said film comprising with an inorganic material, wherein said light emitting layer, said second electrode, said film comprising an inorganic material, and said film comprising an organic material are formed continuously using the same film deposition apparatus(col 4, lines 27-65). Graff et al. does not disclose when covering the film with an inorganic material is formed using an ink jet method. However, Yudasaka discloses using an ink jet method for forming a film on an EL device. It would have been obvious to one skilled in the art at the time of the invention, to form the inorganic layer and the light emitting layer by using an ink jet method as disclosed by Yudasaka, in the EL device of Graff, since an ink jet method is commonly used for forming layers on an EL device.

Regarding claim 25, Graff et al. discloses forming an EL element(fig 1, 120) comprising a first electrode(fig 1, 200), a light emitting layer(fig 1, 210) over the first

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electrode, and a second electrode(fig 1, 220) over the light emitting layer; forming a film comprising an inorganic material(fig 1, 170) covering said EL element by using a CVD method(col 4, lines 55-65) or an evaporation method, and forming a film comprising an organic material(fig 1, 190) covering said film with an inorganic material. Graff et al. does not disclose when covering the film with an inorganic material or forming the light emitting layer by using an ink jet method. However, Yudasaka discloses using an ink jet method for forming a film on an EL device. It would have been obvious to one skilled in the art at the time of the invention, to form the inorganic layer by using an ink jet method as disclosed by Yudasaka, in the EL device of Graff, since as shown by Yudasaka an ink jet method is commonly used for forming layers on an EL device.

Claims 18, 20, 22, 24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al.(U.S. Pat No. 6,522,067) in view of Yudasaka(U.S. Patent No. 6,373,453).

Regarding claim 18, Suzuki et al. discloses forming an EL element(fig 1, U) having a first electrode(fig 1, 10), a light emitting layer(fig 1, 14) over the first electrode, and a second electrode((fig 1, 18) over the light emitting layer; forming a film comprising an organic material(fig 1, 20) covering said EL element by using an ink jet method, and forming a film comprising an inorganic material(fig 1, 22) covering said film having an organic material by using a CVD method or an evaporation method. Suzuki et al. does not disclose covering the EL element by using an ink jet method or covering the film with a CVD method or an evaporation method. However, Yudasaka discloses covering the EL element by

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using an ink jet method(col 13, lines 20-23) or covering the film with a CVD method(col 14, lines 40-42). It would have been obvious to one skilled in the art at the time of the invention, to covering the EL element by using an ink jet method or covering the film with a CVD method as disclosed by Yudasaka, in the EL device of Suzuki, since covering an EL element by using an ink jet method and covering the film with a CVD method is commonly used for forming layers on an EL device.

Regarding claim 20, Suzuki et al. discloses wherein the light emitting layer, said cathode second electrode, the film made of organic material, and the film made of inorganic material are formed using the same film deposition apparatus(col 5, lines 25-30 & col 7, lines 15-29, sputtering).

Regarding claim 22, Suzuki et al. discloses wherein the light emitting layer and the film made from organic material are formed by an electric field application method or an ink jet method(page 1, paragraphs 0005-007).

Regarding claim 24, Suzuki et al. discloses forming an EL element(fig 1, U) having a first electrode(fig 1, 10), a light emitting layer(fig 1, 14) over the first electrode, and a second electrode((fig 1, 18) over the light emitting layer; forming a film comprising an organic material(fig 1, 20), and forming a film comprising an inorganic material(fig 1, 22), said film comprising an inorganic material, and said film comprising an organic material are formed continuously using the same film deposition apparatus. Suzuki et al. does not disclose covering the EL element by using an ink jet method or covering the film with a CVD method or an evaporation method(col 5, lines 25-30 & col 7, lines 15-29, sputtering). However, Yudasaka discloses covering the EL element by using an ink jet method(col 13, lines 20-23) or covering the film with a CVD method(col 14, lines 40-42). It would have been

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obvious to one skilled in the art at the time of the invention, to covering the EL element by using an ink jet method or covering the film with a CVD method as disclosed by Yudasaka, in the EL device of Suzuki, since as shown by Yudasaka covering an EL element by using an ink jet method and covering the film with a CVD method is commonly used for forming layers on an EL device.

Regarding claim 26, Suzuki et al. discloses forming an EL element(fig 1, U) having a first electrode(fig 1, 10), a light emitting layer(fig 1, 14) over the first electrode, and a second electrode((fig 1, 18) over the light emitting layer; forming a film comprising an organic material(fig 1, 20) covering said EL element by using an ink jet method, and forming a film comprising an inorganic material(fig 1, 22) covering said film having an organic material by using a CVD method or an evaporation method. Suzuki et al. does not disclose when covering the film with an inorganic material or forming the light emitting layer by using an ink jet method. However, Yudasaka discloses using an ink jet method for forming a film on an EL device. It would have been obvious to one skilled in the art at the time of the invention, to form the inorganic layer by using an ink jet method as disclosed by Yudasaka, in the EL device of Suzuki et al., since as shown by Yudasaka an ink jet method is commonly used for forming layers on an EL device.

Claims 27, 31, 35 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graff et al.(U.S. Pat No. 6,522,067) in view of Hirai(U.S. Patent No. 4,695,717).

Regarding claim 27, Graff et al. discloses forming an EL element(fig 1, 120) comprising a first electrode(fig 1, 200), a light emitting layer(fig 1, 210) over the first

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electrode, and a second electrode(fig 1, 220) over the light emitting layer; forming a film comprising an inorganic material(fig 1, 170) covering said EL element by using a CVD method(col 4, lines 55-65) or an evaporation method, and forming a film comprising an organic material(fig 1, 190) covering said film with an inorganic material. Graff et al. does not disclose when covering the film with an inorganic material using an electric field method. However, Hirai discloses using an electric field method for forming a film on a semiconductor device(col 2, lines 45-48). It would have been obvious to one skilled in the art at the time of the invention, to form the inorganic layer by using an electric field method as disclosed by Hirai, in the EL device of Graff, since as shown by Hirai an electric field method is commonly used for forming a film on a semi conductor device.

Regarding claim 31, Graff et al. in view of Hirai, as detailed in claim rejection 27 above, does the claimed invention except for the film comprising an inorganic material is formed from silicon nitride, tantalum oxide, aluminum nitride, or carbon. It would have been obvious to one having ordinary skill in the art, at the time the invention was made to form the film from an inorganic material formed from silicon nitride, tantalum oxide, aluminum nitride, or carbon, since it has been held to be within the general skill of a workewr in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Regarding claim 35, Graff et al. in view of Hirai, as detailed in claim rejection 27 above, does the claimed invention except for the film comprising an organic material is formed from polyamide, polyimide, acrylic resin, or benzocyclobuten. It would have been obvious to one having ordinary skill in the art, at the time the invention was made to form the film from an inorganic material formed from silicon nitride, tantalum oxide,

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aluminum nitride, or carbon, since it has been held to be within the general skill of a workewr in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Regarding claim 39, Graff et al. discloses the self-light emitting device is incorporated into an electronic appliance selected from the group consisting of a video camera, a head mount type display, an image reproduction apparatus, a portable computer, a personal computer, a portable telephone, and a sound reproduction device(col 1,lines 8-11 discloses electronics which is a broad category which includes for example a video camera).

Claims 28, 32, 36 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al.(U.S. Pat No. 6,522,067) in view of Hirai(U.S. Patent No. 4,695,717) and of Yudasaka(U.S. Patent No. 6,373,453).

Regarding claim 28, Suzuki et al. discloses forming an EL element(fig 1, U) having a first electrode(fig 1, 10), a light emitting layer(fig 1, 14) over the first electrode, and a second electrode((fig 1, 18) over the light emitting layer; forming a film comprising an organic material(fig 1, 20) covering said EL element by using an ink jet method, and forming a film comprising an inorganic material(fig 1, 22) covering said film having an organic material by using a CVD method or an evaporation method. Suzuki et al. does not disclose covering the EL element by using an electric field method or covering the film with a CVD method or an evaporation method. However, Hirai discloses covering the EL element by using an electric field method(col 2,lines 45-48) and Yudasaka discloses covering the film

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with a CVD method(col 14, lines 40-42). It would have been obvious to one skilled in the art at the time of the invention, to covering the EL element by using an electric field method or covering the film with a CVD method as disclosed by Hirai and Yudasaka, in the EL device of Suzuki, since as shown by Hirai and Yudasaka covering an EL element by using an electric field method and covering the film with a CVD method is commonly used for forming layers on a semiconductor.

Regarding claim 32, Suzuki et al. in view of Hirai, as detailed in claim rejection 28 above, does the claimed invention except for the film comprising an inorganic material is formed from silicon nitride, tantalum oxide, aluminum nitride, or carbon. It would have been obvious to one having ordinary skill in the art, at the time the invention was made to form the film from an inorganic material formed from silicon nitride, tantalum oxide, aluminum nitride, or carbon, since it has been held to be within the general skill of a workewr in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Regarding claim 36, Suzuki et al.in view of Hirai, as detailed in claim rejection 28 above, does the claimed invention except for the film comprising an organic material is formed from polyamide, polyimide, acrylic resin, or benzocyclobuten. It would have been obvious to one having ordinary skill in the art, at the time the invention was made to form the film from an inorganic material formed from silicon nitride, tantalum oxide, aluminum nitride, or carbon, since it has been held to be within the general skill of a workewr in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

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Regarding claim 40, Suzuki et al. discloses the self-light emitting device is incorporated into an electronic appliance selected from the group consisting of a video camera, a head mount type display, an image reproduction apparatus, a portable computer, a personal computer, a portable telephone, and a sound reproduction device(col 1, lines 8-11 discloses a display device which is a broad category which includes for example a head mounted display).

Claims 29, 33, 37 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graff et al.(U.S. Pat No. 6,522,067) in view of Hirai(U.S. Patent No. 4,695,717).

Regarding claim 29, Graff et al. discloses forming an EL element(fig 1, 120) comprising a first electrode(fig 1, 200), a light emitting layer(fig 1, 210) over the first electrode, and a second electrode(fig 1, 220) over the light emitting layer; forming a film comprising an inorganic material(fig 1, 170) covering said EL element by using a CVD method(col 4, lines 55-65) or an evaporation method, and forming a film comprising an organic material(fig 1, 190), covering said film with an inorganic material, covering said film comprising with an inorganic material, wherein said light emitting layer, said second electrode, said film comprising an inorganic material, and said film comprising an organic material are formed continuously using the same film deposition apparatus(col 4, lines 27-65). Graff et al. does not disclose when covering the film with an inorganic material using an electric field method. However, Hirai discloses using an electric field method for forming a film on a semiconductor device(col 2, lines 45-48). It would have been obvious to one

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skilled in the art at the time of the invention, to form the inorganic layer by using an electric field method as disclosed by Hirai, in the EL device of Graff, since as shown by Hirai an electric field method is commonly used for forming a film on a semi conductor device.

Regarding claim 33, Graff et al. in view of Hirai, as detailed in claim rejection 29 above, does the claimed invention except for the film comprising an inorganic material is formed from silicon nitride, tantalum oxide, aluminum nitride, or carbon. It would have been obvious to one having ordinary skill in the art, at the time the invention was made to form the film from an inorganic material formed from silicon nitride, tantalum oxide, aluminum nitride, or carbon, since it has been held to be within the general skill of a workewr in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Regarding claim 37, Graff et al. in view of Hirai, as detailed in claim rejection 29 above, does the claimed invention except for the film comprising an organic material is formed from polyamide, polyimide, acrylic resin, or benzocyclobuten. It would have been obvious to one having ordinary skill in the art, at the time the invention was made to form the film from an inorganic material formed from silicon nitride, tantalum oxide, aluminum nitride, or carbon, since it has been held to be within the general skill of a workewr in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Regarding claim 41, Graff et al. discloses the self-light emitting device is incorporated into an electronic appliance selected from the group consisting of a video camera, a head mount type display, an image reproduction apparatus, a portable

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computer, a personal computer, a portable telephone, and a sound reproduction device(col 1, lines 8-11 discloses electronics which is a broad category which includes for example a video camera).

Claims 30, 34, 38 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al.(U.S. Pat No. 6,522,067) in view of Hirai(U.S. Patent No. 4,695,717) and of Yudasaka(U.S. Patent No. 6,373,453).

Regarding claim 30, Suzuki et al. discloses forming an EL element(fig 1, U) having a first electrode(fig 1, 10), a light emitting layer(fig 1, 14) over the first electrode, and a second electrode((fig 1, 18) over the light emitting layer; forming a film comprising an organic material(fig 1, 20) covering said EL element by using an ink jet method, and forming a film comprising an inorganic material(fig 1, 22) covering said film having an organic material by using a CVD method or an evaporation method. Suzuki et al. does not disclose covering the EL element by using an electric field method or covering the film with a CVD method or an evaporation method, covering said film with an inorganic material, covering said film comprising with an inorganic material, wherein said light emitting layer, said second electrode, said film comprising an inorganic material, and said film comprising an organic material are formed continuously using the same film deposition apparatus(col 4, lines 27-65). However, Hirai discloses covering the EL element by using an electric field method(col 2,lines 45-48) and Yudasaka discloses covering the film with a CVD method(col 14, lines 40-42). It would have been obvious to one skilled in the art at the time of the invention, to covering the EL element by using an electric field method or covering the

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film with a CVD method as disclosed by Hirai and Yudasaka, in the EL device of Suzuki, since as shown by Hirai and Yudasaka covering an EL element by using an electric field method and covering the film with a CVD method is commonly used for forming layers on a semiconductor.

Regarding claim 34, Suzuki et al. in view of Hirai, as detailed in claim rejection 30 above, does the claimed invention except for the film comprising an inorganic material is formed from silicon nitride, tantalum oxide, aluminum nitride, or carbon. It would have been obvious to one having ordinary skill in the art, at the time the invention was made to form the film from an inorganic material formed from silicon nitride, tantalum oxide, aluminum nitride, or carbon, since it has been held to be within the general skill of a workewr in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Regarding claim 38, Suzuki et al. in view of Hirai, as detailed in claim rejection 30 above, does the claimed invention except for the film comprising an organic material is formed from polyamide, polyimide, acrylic resin, or benzocyclobuten. It would have been obvious to one having ordinary skill in the art, at the time the invention was made to form the film from an inorganic material formed from silicon nitride, tantalum oxide, aluminum nitride, or carbon, since it has been held to be within the general skill of a workewr in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Regarding claim 42, Suzuki et al. discloses the self-light emitting device is incorporated into an electronic appliance selected from the group consisting of a video

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camera, a head mount type display, an image reproduction apparatus, a portable computer, a personal computer, a portable telephone, and a sound reproduction device(col 1, lines 8-11 discloses a display device which is a broad category which includes for example a head mounted display).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Thompson whose telephone number is (703) 305-0881. If the examiner can not be reached his supervisor, Georgia Epps, can be reached on (703) 308-4883.

A handwritten signature in black ink, appearing to read "Tim Thompson", with a stylized, flowing script.

T.J.T.

10/23/03